

Maryland Department of Information Technology

# Exploring the MD iMAP Template

Geographic Information Office



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# Introduction

## About this Document

This document is aimed at all users that are interested in using the MD iMAP Template. It provides you basic information about the MD iMAP Template, including the layout and tools available in the template. This document is not a guide to configuring the template.

## What is the MD iMAP Template?

The MD iMAP Template is a JavaScript based application that allows users to have a consistent look and feel for their web mapping applications. The MD iMAP Template provides additional tools and layout options that can be easily configured to enhance the web mapping application experience over typical templates. This template is not a native mobile application but has responsive design to work with browsers on mobile devices.

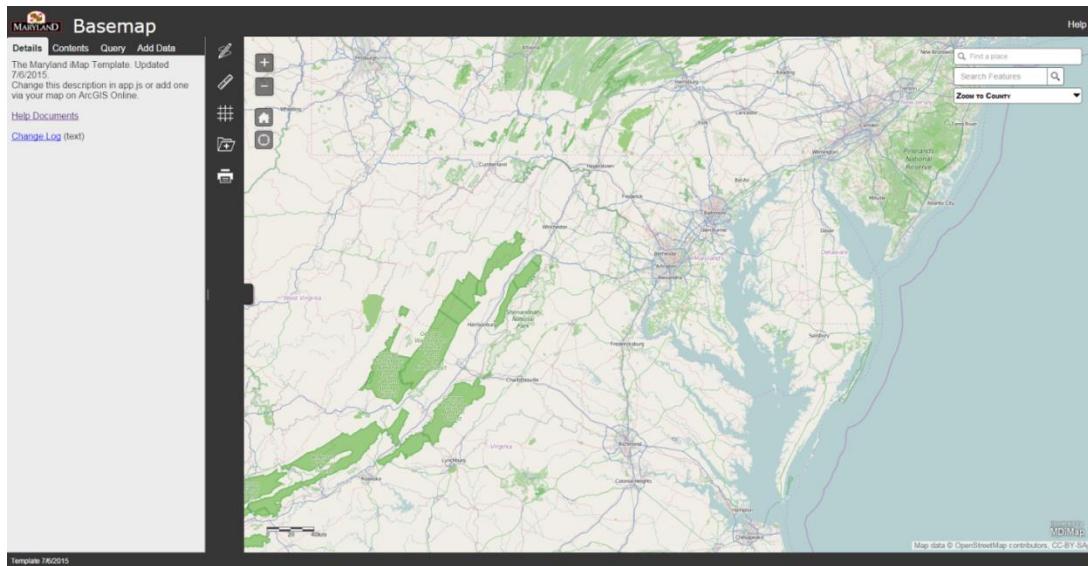


Figure 1: MD iMAP Template

## How do I use the MD iMAP Template?

The MD iMAP Template can be deployed two ways:

1. As a hosted application in Maryland's ArcGIS Online Organization
2. As a standalone application on your own web server

This document covers the available tools and option available in the MD iMAP Template.

Please see the following documents to learn about deploying the MD iMAP Template:

[Configuring the MD iMAP Template in ArcGIS Online](#)

[Configuring the MD iMAP Template for Developers](#)

## Layout

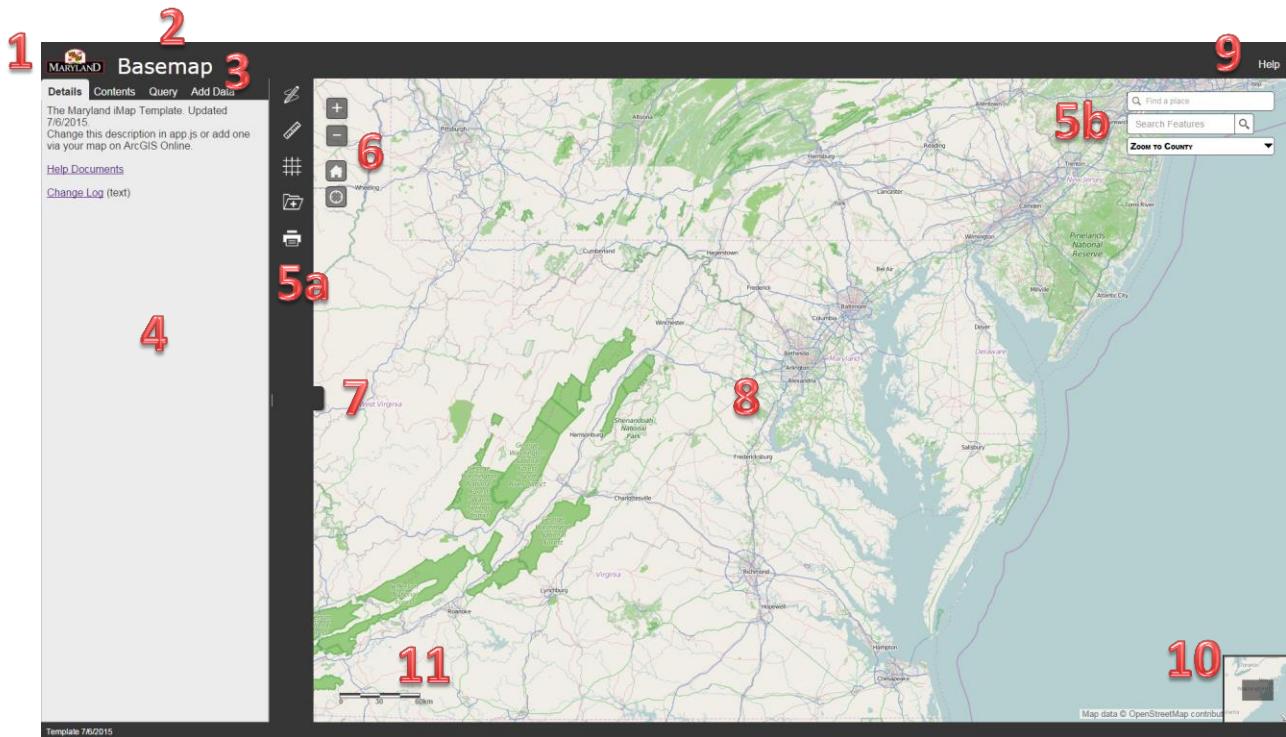


Figure 2: Basic Layout Features

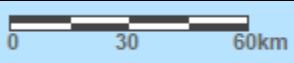
1. Logo
2. Title
3. Left Pane Tabs
4. Left Tab
5. Tools
  - a. Button Bar Tools
  - b. In-Map Tools
6. Navigation Buttons
7. Collapse Left Pane Button
8. Map Area
9. Help
10. Overview Map
11. Scale Bar

# Map Components

## Overview

The Map Components are the standard elements of a web map that allow for basic navigation and location information.

## Map Tools

Tool	Description
	The <b>+ Zoom Button</b> zooms you in one scale level of the map, the <b>- Zoom Button</b> zooms the map out one scale
	The <b>Home Button</b> takes you to the initial extent of the map
	The <b>Location Tool</b> will turn on location tracking and zoom to current location  *Note that some firewalls and/or browser settings may prevent this tool from interacting. You may see a system or browser generated pop-up asking for permission to continue or "Share Location" before the tool is able to process the request. Occasionally, the tool is left in the "on" mode, you may get a periodic "location attempt timeout" notice. If this occurs, click the button again to turn off the location.
	The <b>Overview Window</b> , located in the bottom right of the map, opens a smaller window that gives you a broader picture of where the main map is viewing.
	The <b>Scale Bar</b> shows the map scale based on the spatial reference of the Web Map

## Left Pane

### Overview

The Left Pane of the MD iMAP Template provides a tab based layout for map details, map contents and tools. The Left Pane has the option to be collapsed or expanded, as well as completely turned off to function as a Viewer application. Additionally, any of the tabs in the Left Pane can be turned on or off through the template configuration.

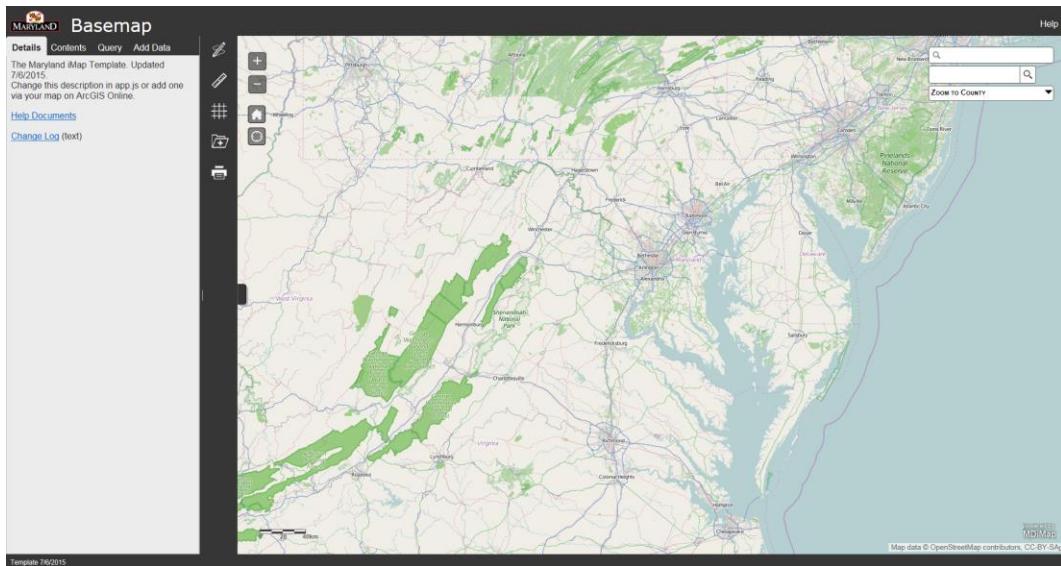


Figure 3: MD iMAP Template with Expanded Left Pane

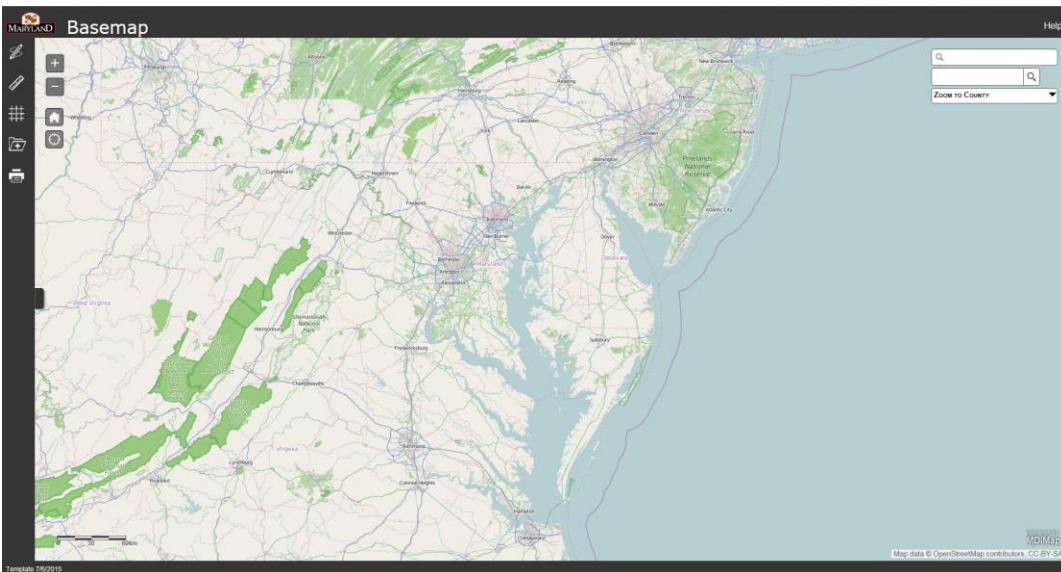


Figure 4: MD iMAP Template with Collapsed Left Pane

## Tabs

The four tabs available are Details, Contents, Query and Add Data

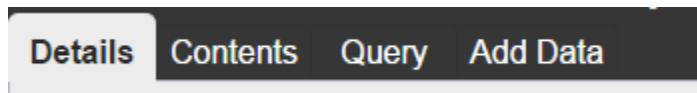


Figure 5: Tabs of the Left Pane

### Details Tab

The Details Tab presents information from the description of the Web Map. This can include HTML formatted content.

A screenshot of the 'Details' tab content area. It displays a description of the Maryland iMap Template, last updated on 7/6/2015, with a note to change it via app.js or ArcGIS Online. Below the description are two links: 'Help Documents' and 'Change Log (text)'. The background is light gray.

Figure 6: Details Tab

### Contents Tab

The Contents tab provides the legend and layer list for the MD iMAP Template. This tab has many different configuration options that allow for a simple legend or a more complex layer list to adjust feature display capabilities.

The simplest configuration shows the map service, its layers and the layer symbology.

A screenshot of the 'Contents' tab showing a legend. The legend items are grouped by category: 'State Boundary Mask' (checkbox), 'Political Boundaries' (checkboxes for State Boundary, County Boundaries, Municipal Boundaries), and 'ZIP Codes' (checkbox). The 'ZIP Codes' checkbox is checked and highlighted with a yellow square. The background is light gray.

Figure 7: Contents Tab - Simple Legend

Enabling the Layer List option will turn on a Layer List pane below the Legend pane. This pane provides the ability to turn layers or sublayers on or off. The Layer List also allows for the re-ordering or removal of map layers within the map if multiple layers are available. The Transparency Slider can be used to adjust the map visibility of an individual layer.

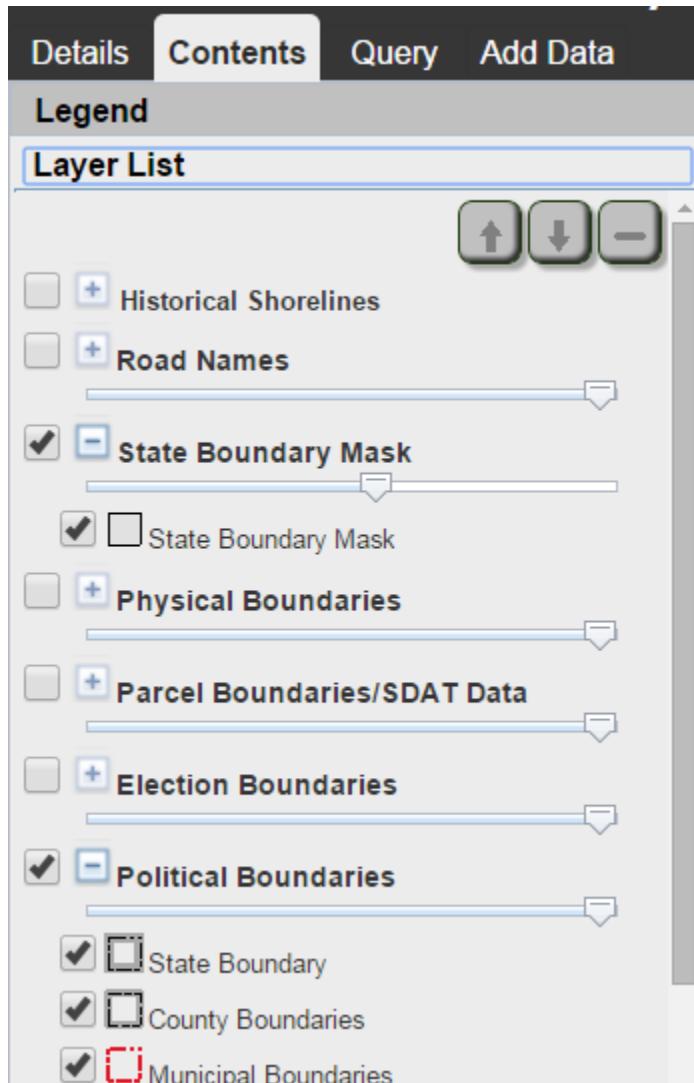


Figure 8: Contents Tab - Layer List - Visible Layer Control

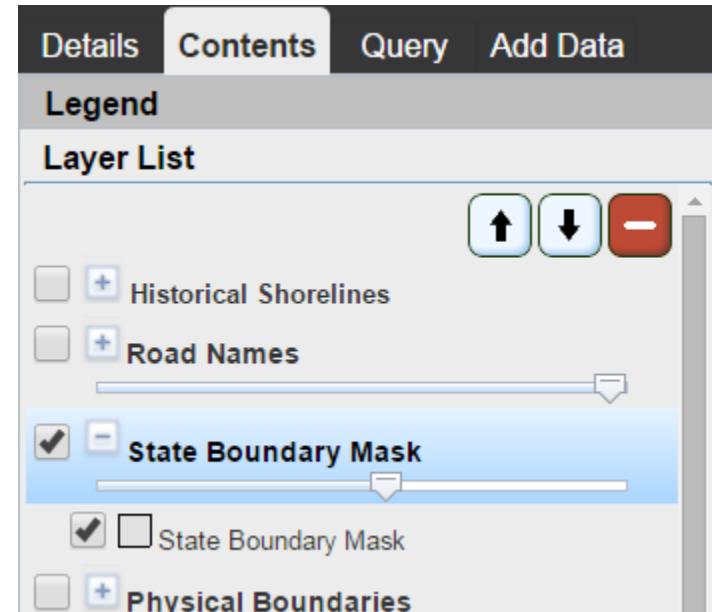


Figure 9: Contents Tab - Layer List – Transparency Slider

## Query Tab

The Query Tab allows users to run searches spatially or on a layer's attributes. This tool supports existing services with single or multiple map layers or new layers that have been added to the map through the Add Data tab.

Details   Contents   **Query**   Add Data

### Query Features

Services:

Select a service

**Reset**

Figure 10: Query Tab – Query Features for Service with Single Layer

Query Features

Services:

MD Wetlands

Layers:

Wetlands - National Wetlands Inventory

\*Raster and group layers are omitted

Query by Attributes  
- Or -  
 Query by Spatial Select

**Reset**

Figure 11: Query Tab – Query Features for Service with Multiple Layers

If you choose to Query by Attributes, you will be allowed to search a layer's field for specific attribute information. The search is a wild card search, and is not case sensitive, allowing for the best search results with the least amount of information provided.

Query Features

Services:

MD Wetlands

Layers:

Wetlands - National Wetlands Inventory

\*Raster and group layers are omitted

Query by Attributes  
- Or -  
 Query by Spatial Select

Fields:

Select a field

Type in a value to match possible values in the field that you selected above. For example, if the field is "City", you might type in "Annapolis" or even "anna".

**Query**   **Reset**

Figure 12: Query Tab - Query Features by Attribute

If you choose to Query with a Spatial Selection, you will be allowed to draw an area of interest on the map and the results within that area of interest will be returned in a table at the bottom of the map. The types of shapes you can draw for your spatial selection are:

- Circle
- Rectangle
- Polygon
- Freehand

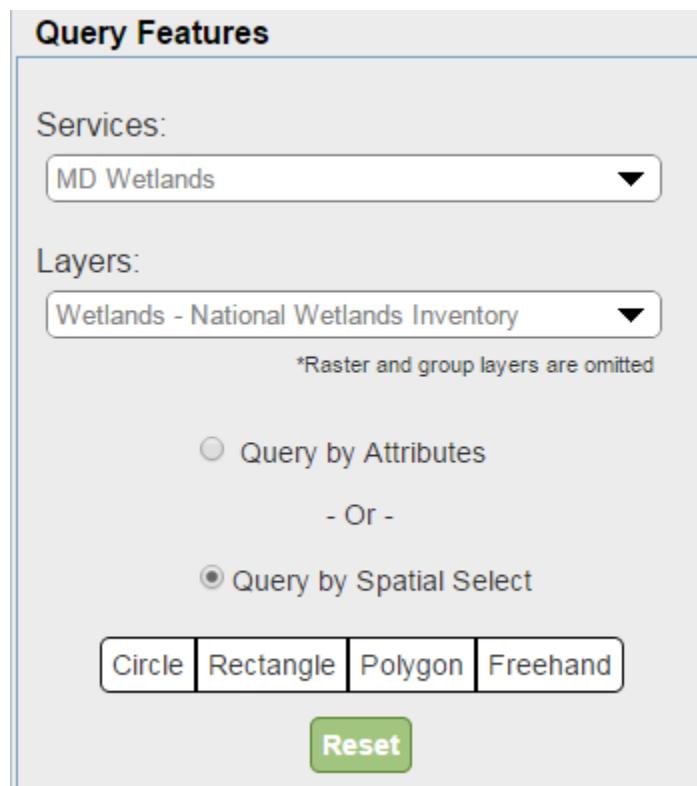


Figure 13: Query Tab – Query by Spatial Selection

### Add Data Tab

The Add Data tab allows users to add layers from the available MD iMAP map and image services. Each of the MD iMAP data categories can be expanded to show the available services. Clicking on a service will show the service description (if available) and will allow you to add the service into the Template.

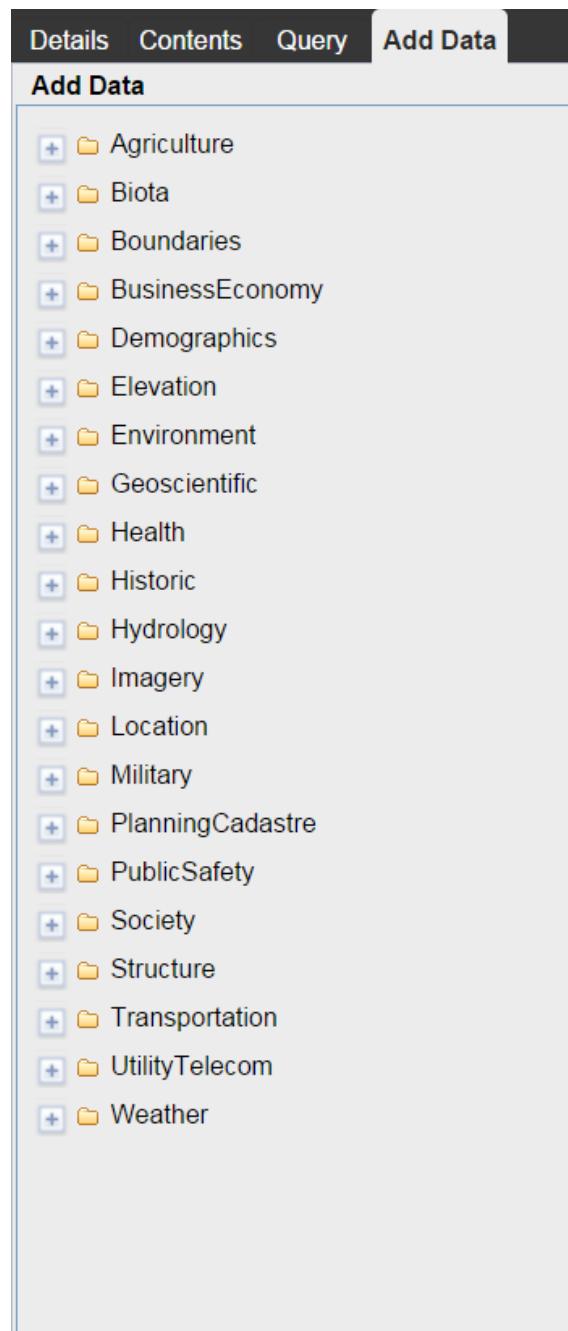


Figure 14: Add Data Tab

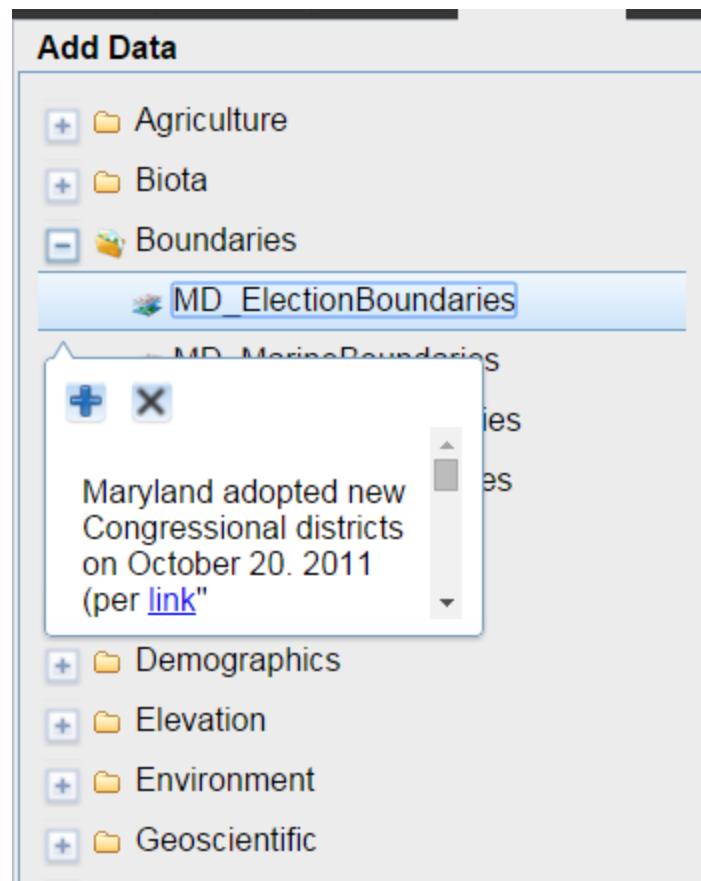


Figure 15: Add Data Tab - Service Description

# Results Pane

## Overview

The Results pane of the MD iMAP Template displays the features from the results of a query (attribute or spatial selection). The results pane appears at the bottom of the map and can be expanded or collapsed.

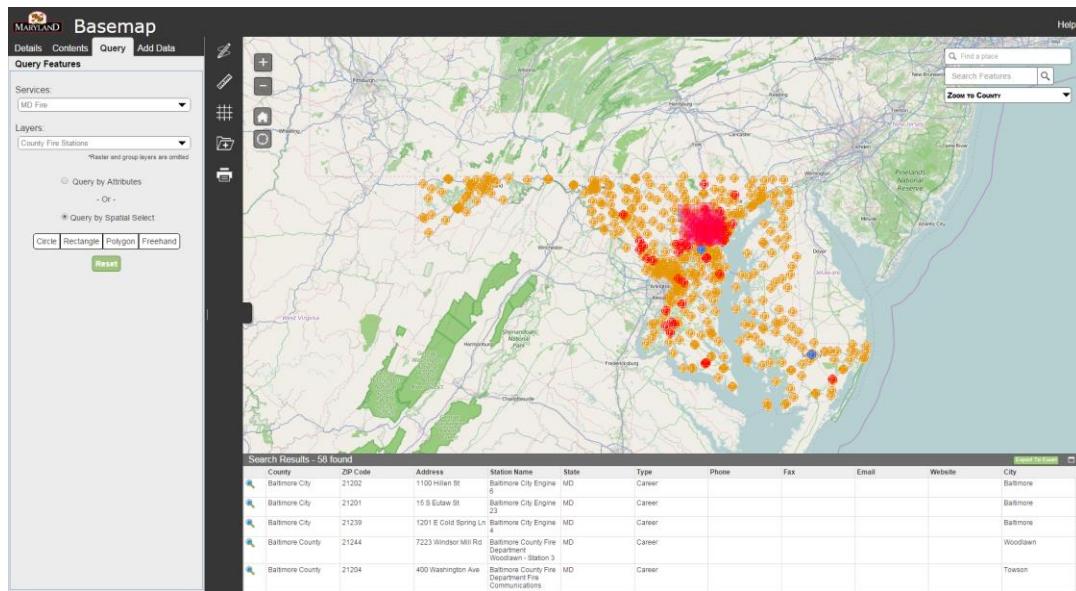


Figure 16: MD iMAP Template with Results Pane

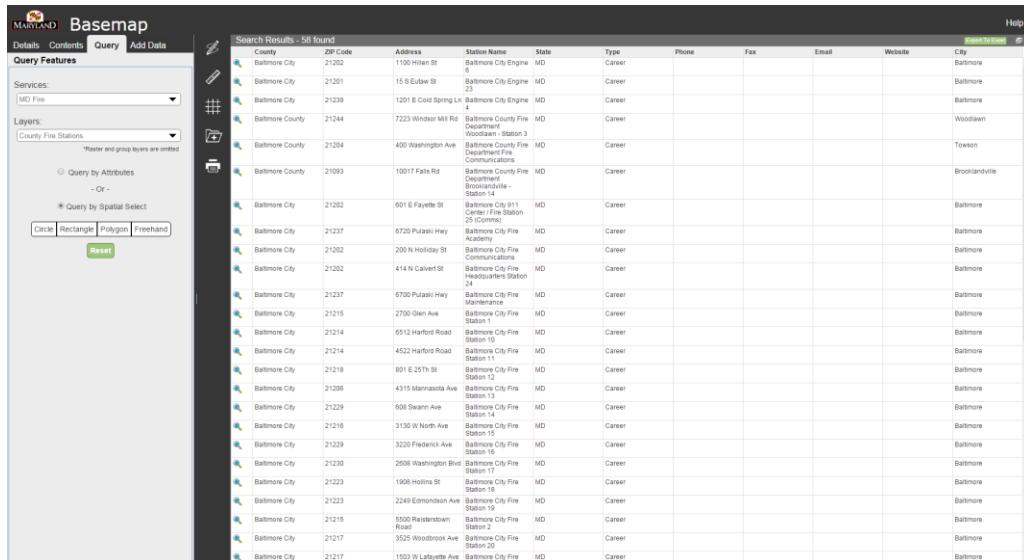


Figure 17: Results Pane - Expanded View

## Zoom to Results

The Results pane provides a Zoom to Results button for each record that allows you to zoom to specific features from the query.

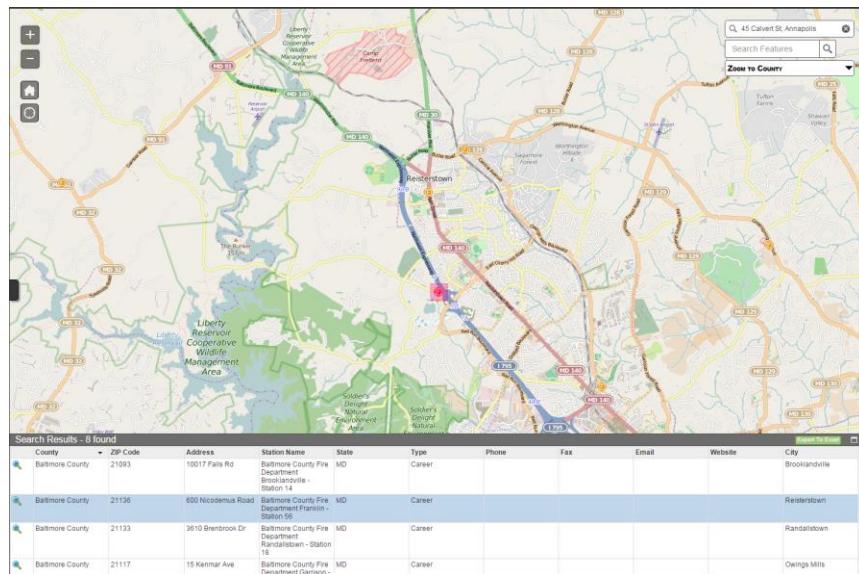


Figure 18: Results Pane - Zoom to Results

## Export to Excel

The Export to Excel tool in the Results pane allows you to export the results of a query to a CSV file that can be opened and further manipulated in Excel.

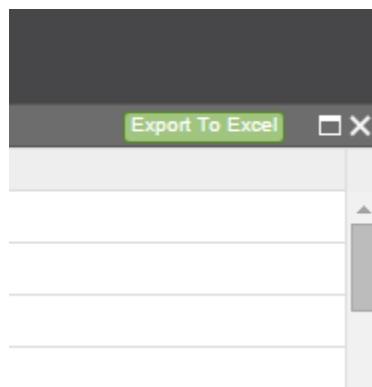


Figure 19: Results Pane - Export to Excel

# Tools and Widgets

## Overview

The tools and widgets are found in two places, in the button bar between the map and left pane and at the top right corner of the map. All of the tools and widgets can be turned on or off in any combination or completely through the hosted ArcGIS Online configuration or by adjusting the parameters in the app.js file for the standalone hosted version.

## Button Bar Tools

Tool	Description
	The <b>Draw Tool</b> allows you to add user drawn graphics to the map
	The <b>Measure Tool</b> calculates a linear distance between two points on the map or total area for a specific area on the map.
	The <b>Basemap Selection Tool</b> lets you change the background reference map
	The <b>Data Interoperability Tool</b> allows you to add your own dataset as a Shapefile to the map
	The <b>Print Tool</b> enables you to output the map as a distributable file for email or printing

### Draw Tool

The Draw Tool allows users to add points, lines and polygons to the map. The types of shapes that can be added are:

- Point
- Line
- Freehand Line
- Polygon
- Freehand Polygon
- Arrow
- Triangle
- Circle
- Ellipse

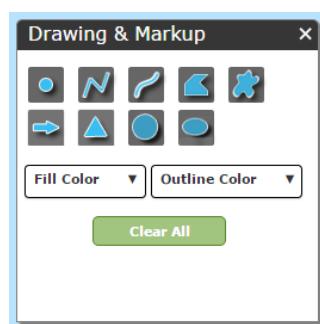


Figure 20: Draw Tool

Users also have the option to give their shapes a Fill Color and/or Outline Color. All of the features created can be cleared at any time.

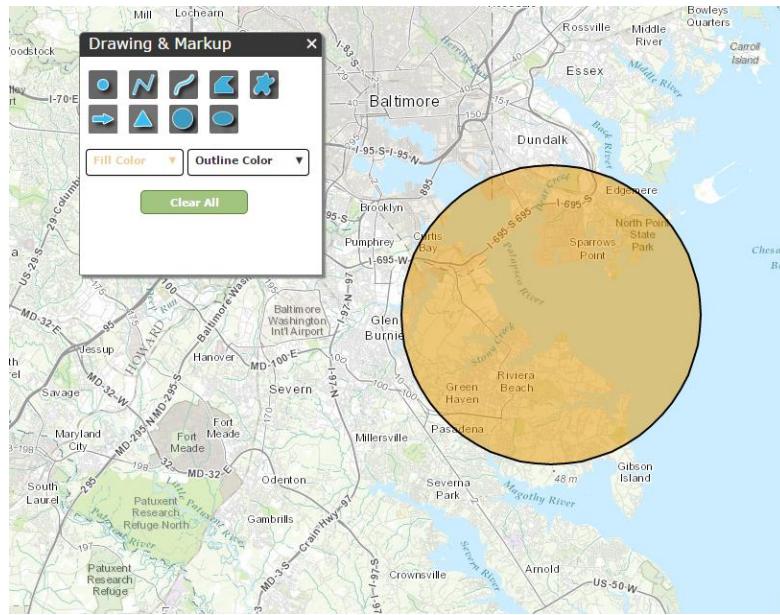


Figure 21: Example of Shape from Draw Tool

**\*Note:** The graphics created from this tool do not persist once the map is refreshed from the browser

## Measure Tool

The Measurement Tool offers the ability to acquire location, distance and area measurements in several different units. The units of measure available are:

- Location
  - Decimal Degrees
  - Degrees Minutes Seconds
- Distance
  - Miles
  - Kilometers
  - Feet
  - Meters
  - Yards
  - Nautical Miles
- Area
  - Acres
  - Square Miles
  - Square Kilometers
  - Hectares
  - Square Feet
  - Square Yards

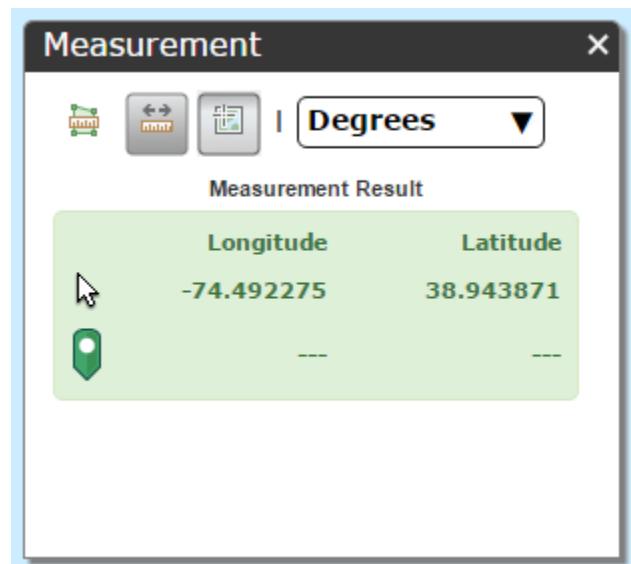


Figure 22: Measurement Tool

- Square Meters

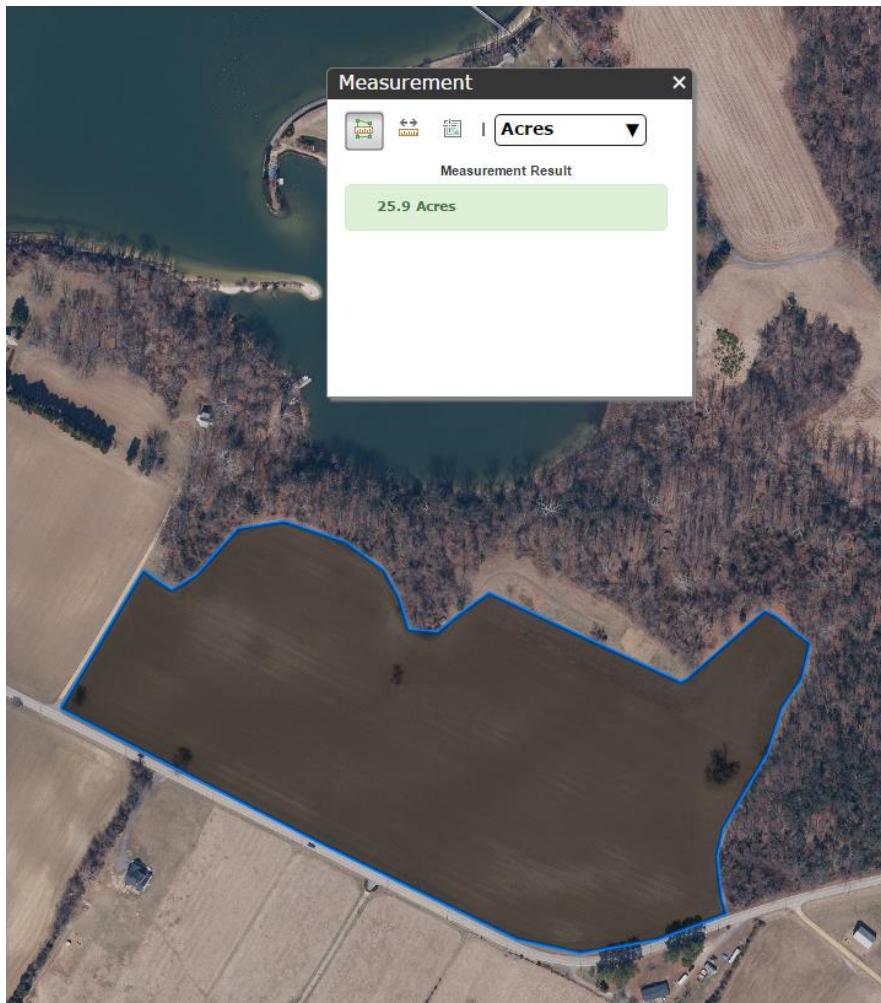


Figure 23: Example of Area Measurement

### Basemap Selection Tool

The Basemap Selection Tool allows users to change the background reference map. The hosted version of the MD iMAP Template will use a Maryland Basemap Group by default. This includes the following basemaps:

- Maryland Six Inch Imagery (MD GIO)
- Dark Gray Canvas (Esri)
- Imagery (Esri)
- Streets (Esri)
- Topography (Esri)
- Light Gray Canvas (Esri)
- National Geographic (Esri)
- Oceans (Esri)
- Terrain with Labels (Esri)

- Open Street Map (Esri)
- Imagery with Labels (Esri)



Figure 24: Available Basemaps

## Data Interoperability Tool

One unique feature of the MD iMAP Template is the ability to add your own Shapefile data to a map. Additionally, you can choose a custom layer name for display in the Table of Contents regardless of the Shapefile name.

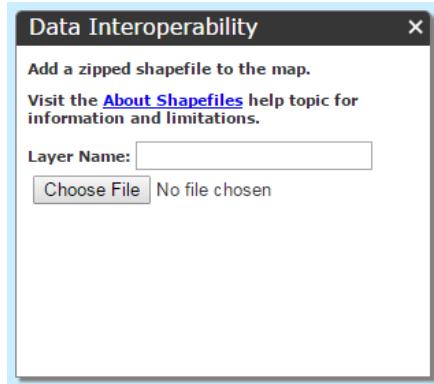
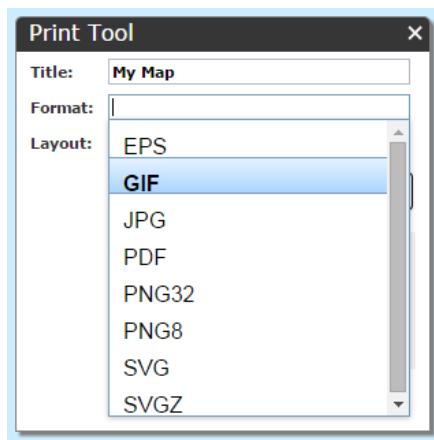


Figure 25: Data Interoperability Tool

## Print Tool

The Print Tool provides a user with the ability to export the map to several different file formats and print layouts. The file formats and layout options include:

- Format
  - EPS
  - GIF
  - JPG
  - PDF
  - PNG32
  - PNG8
  - SVG
  - SVGZ
- Layout
  - Map Only
  - A3 Landscape
  - A3 Portrait



A3 Landscape
A3 Portrait
A4 Landscape
A4 Portrait
Letter ANSI A Landscape
Letter ANSI A Portrait
MAP_ONLY
Tabloid ANSI B Landscape
Tabloid ANSI B Portrait

Figure 27: Print Tool Format Options

Figure 26: Print Tool  
Layout Options

- A4 Landscape
- A4 Portrait
- Letter ANSI A Portrait
- Letter ANSI A Landscape
- Tabloid ANSI B Portrait
- Tabloid ANSI B Landscape

**Map scale/extent:**  
 map scale  
 map extent

**Full layout options:**

Scale bar units: Miles

Include legend:

**Print Quality options:**

DPI: 300

**MAP\_ONLY options:**

Width: 3,300

Height: 2,550

Figure 28: Print Tool Map Element Options

Additional layout and map element customization options are available that include Map Extent, Scale Bar Units, Legend and Print Quality.

## In-Map Tools

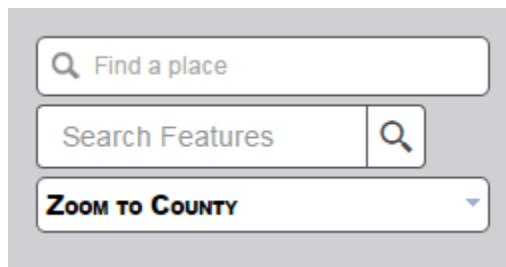


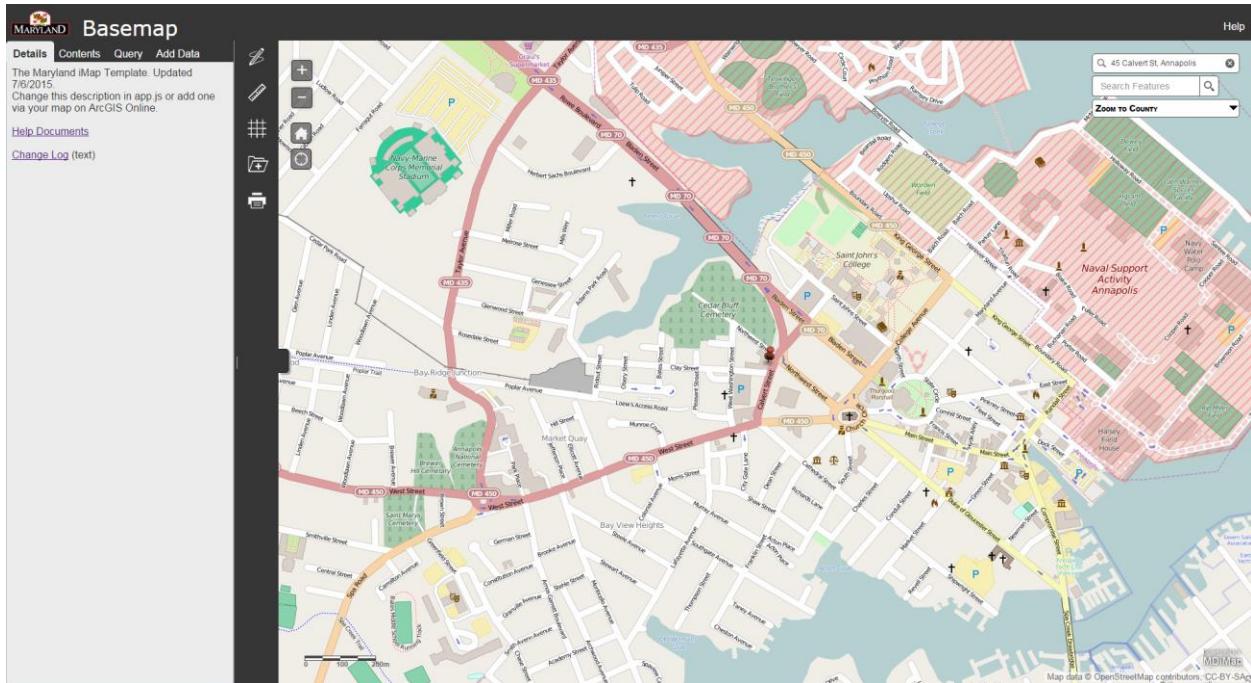
Figure 29: In-Map Tools

### Find a Place Tool

The Find a Place tool allows you to search for an Address or Point of Interest using an Address Locator. This tool uses the Maryland Composite Locator for place finding. The search results from this tool will place a pushpin on the map and zoom to the result, if one is found from the search.



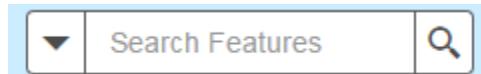
Figure 30: Find a Place Tool



**Figure 31: Find a Place Tool Results**

### Search Features Tool

This tool allows you to search the name field for layers in the map on startup. If several layers are loaded into the map, you can choose to search in an individual layer or through all the layers. If more than one result is found in the search, the Search Results pop up allows you those additional results. You can also zoom to the results from this pop up window.



**Figure 32: Search Tool**

### Zoom to County Tool

The Zoom to County tool provides a quick way to zoom to a Maryland County. The tool drop down lists all of the Maryland Counties (including Baltimore City), and once a county is selected, the map will zoom to the selected county and the appropriate scale and highlight the county in blue momentarily for reference.



**Figure 33: Zoom to County Tool**

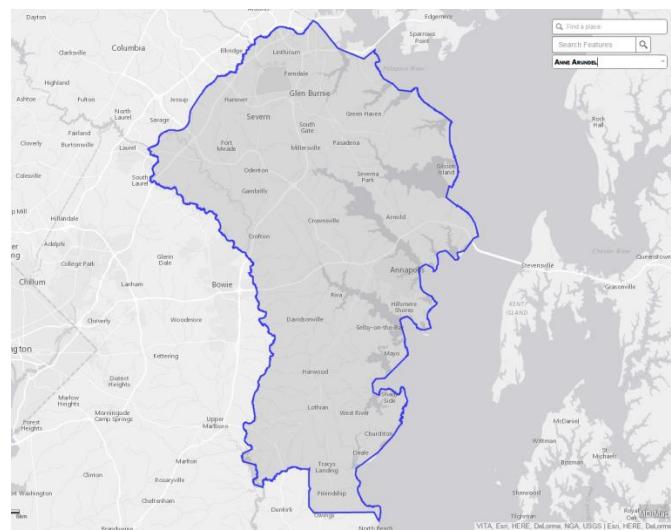


Figure 34: Results of Zoom to County Tool

## **Additional Resources**

### **General Information**

Find more information and documentation about the MD iMAP Template at:

<http://imap.maryland.gov/Pages/template.aspx>

Or

Contact the Maryland Geographic Information Office at: [gio.doit@maryland.gov](mailto:gio.doit@maryland.gov)

### **Development Resources**

You can find the source code for all versions of the MD iMAP Template at:

<http://www.github.com/mdgio>

More information about Esri's JavaScript API is available from: <http://js.arcgis.com>

More information about the Dojo Framework is available from: <http://www.dojotoolkit.org>